EDITORIAL

The Health Sciences Bond Issue

PROPOSITION 2 ON THE NOVEMBER 7 ballot would authorize a bond issue to provide health science facilities for the University of California to help meet present and anticipated future needs. This bond issue has the whole-hearted support of the Council of the California Medical Association and President Jean Crum urged its passage in these columns last month. Information with respect to exactly what this bond issue would authorize is to be found elsewhere in this issue. It is to be noted that each project authorized will still require final approval by the legislature.

It is appropriate to recall that the people of California through their legislature mandated the expansion of University of California programs in the health sciences for which the funds are now being asked. This was done after careful study of present and projected needs. The basic facts are well known. Health and health care are growing propositions in our society. The percentage of the gross national product devoted to these purposes is steadily rising. As knowledge in health science increases there is more to be done for more people, and more health professionals of all kinds are needed. And there is no lack of young people who are seeking careers in these professions. The qualified applicants in California and elsewhere far exceed the number that can be accepted.

A sad and disturbing fact is that instead of training its own (or giving its own the opportunity to be trained) the State of California imports 70 percent of its physicians, more than half its dentists, and high percentages of other health professionals. And this is not all. In the nation as a whole approximately 35 percent of the newly licensed physicians each year are foreign medical graduates, and it is also sad and disturbing that there is good reason to believe that many of these are inadequately trained by American standards. California of course has its share of them. Thus California seems unduly, and perhaps even inexcusably, dependent upon other states and foreign nations for the education and training of most of its health personnel, when there are young qualified Californians who are eager to enter these professions, and to get their education and training right here in this great and comparatively affluent state.

We agree that Proposition 2, the Health Sciences Bond Issue, should be passed and that all physicians should support it. But physicians, dentists and even all the health professionals together cannot pass this bond issue alone. What is needed is for each one of us to convince several others outside of our professions to vote for Proposition 2. This is what can make all the difference in what may be a close vote. We must do this. Informational materials are available from CMA* and from local citizens committees. What is done right now is critically important. The November 7 ballot will simply count the votes. We must win this one.

*For these materials, write to Division of Communications, California Medical Association, 693 Sutter Street, San Francisco, Ca. 94102.

The Rational Approach to Antimicrobial Therapy

ELSEWHERE IN THIS ISSUE of CALIFORNIA MEDICINE, Dr. E. Jack Benner presents a practical approach to antimicrobial therapy. His article contains excellent information on three major classes of antimicrobial drugs—penicillins, cephalosporins and aminoglycosides. The concept of employing a relatively small armamentarium

that one can know really well is a good one. And it is certainly true that most of what is new in the antibiotic field involves the above three groups of drugs. Hence Dr. Benner's review is quite appropriate. While it is true that the penicillins, cephalosporins and aminoglycosides would provide excellent therapy for most infections encountered in the usual practice, there are important uses for several other types of antimicrobial agents. In the patient with significant allergic sensitivity to penicillin, cephalosporins would not be safe to use. In a patient of that kind, erythromycin or clindamycin would be good choices for infections due to pneumococci or Group A beta-hemolytic streptococci, vancomycin and clindamycin (susceptibility tests necessary here) for staphylococcal infections, the tetracyclines for Haemophilus influenzae infection or gonorrhea, and tetracyclines or erythromycin for syphilis and Mycoplasma infections. In the above types of infections, of course, the agents listed would often be suitable for primary therapy in a non-allergic patient. For Bacteroides fragilis (by far the most common organism in anaerobic infections), chloramphenicol is currently the drug of choice. Drugs which also look excellent for this type of infection (and for many other anaerobic infections) but which are not yet approved by the FDA for this purpose include clindamycin and metronidazole. For uncomplicated urinary tract infections, many would prefer to use sulfonamides as a first choice. Nitrofurantoin and nalidixic acid are very useful here also, and they have a much broader spectrum of activity against urinary tract pathogens than do the sulfonamides. These agents have an outstanding advantage in that they do not modify the normal bacterial flora of the patient.

Various workers in infectious diseases have different feelings regarding drugs of choice and frequently the differences are probably not really significant. This writer would leave out cephaloglycine now that cephalexin is available, would add phenethicillin (Syncillin®) as an alternative to phenoxymethyl penicillin (with no preference), would add dicloxacillin (Dynapen®) as an alternative tocloxacillin, and hetacillin (Versapen®) as another ampicillin derivative. Among the parenteral preparations, methicillin (Staphcillin®) and oxacillin (Prostaphlin®) should be added as excellent drugs for the management of infections due to Staphylococcus aureus.

The question of significance of bactericidal activity of antibiotics is raised. It is this writer's opinion that such activity is not established as being important except in bacterial endocarditis. In theory, bactericidal effect should also be important in situations in which host defense mechanisms are not effective.

The principles of proper antimicrobial therapy stressed by Dr. Benner deserve careful attention. Some additional principles might be mentioned. It is crucial that the clinician determine, to the best of his ability, whether or not an infection is actually present and that he obtain appropriate cultures before embarking on a course of therapy. Many non-infectious conditions may cause x-ray shadows resembling, for example, those associated with pneumonia. Care must be taken in interpretation of bacteriologic results. For example, potential pathogens such as S. aureus or Pseudomonas aeruginosa may be present in sputum without any significance, as a result of colonization of the upper respiratory tract. Hence the clinician must analyze all the clinical and bacteriologic data carefully in assessing the need for therapy. As suggested earlier, other things being equal, one should always choose an antimicrobial agent which modifies the host's normal flora to the least possible extent in order to minimize the possibility of superinfection.

With regard to the aminoglycosides, the clinician should be alert to certain early warnings which may suggest the likelihood of ototoxicity in patients receiving these drugs. These are (1) presence of factors predisposing to ototoxicity (older age group, impaired renal function, impaired hydration, previous cochlear damage, previous or concurrent use of another ototoxic agent, particularly if it is also nephrotoxic, and excessive dosage or duration of therapy), (2) worsening of renal function, (3) excessive blood levels of drug, (4) tinnitus, (5) fullness in ears, (6) high frequency audiographic changes, and (7) early evidence of vestibular or auditory loss. Serious ototoxicity may often be avoided if the offending drug can be discontinued (or dosage reduced) when some of the above warning signs are first noted.

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